

# 2023/24 THE HAYLING COLLEGE- SCIENCE. YEAR 7

|                                                                                                                                                                                                         | AUTUMN TERM                                                                                       |                                                                                                                                                |                                                                                                                          |                                                                                                                          | SPRING TERM                                                                                                                                            |                                                                                                                               |                                                                                                                         | SUMMER TERM                                                                                                                                   |                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| TOPICS                                                                                                                                                                                                  | HOW SCIENCE WORKS*                                                                                | PARTICLES                                                                                                                                      | ENERGY TRANSFERS                                                                                                         | CELLS                                                                                                                    | SEPARATING MIXTURES                                                                                                                                    | SPEED AND GRAVITY                                                                                                             | REPRODUCTION                                                                                                            | ACIDS AND ALKALIS                                                                                                                             | SOUND AND WAVES                                                                                   |
| THE BIG QUESTION                                                                                                                                                                                        | How do we work safely in science?                                                                 | What are particles made from?                                                                                                                  | What is the connection between a lump of coal and a sandwich?                                                            | What are living things made of?                                                                                          | How do we separate mixtures and compounds?                                                                                                             | How do we measure moving objects?                                                                                             | How do animals and plants reproduce?                                                                                    | How do acids and alkalis react?                                                                                                               | How does sound energy travel?                                                                     |
| <b>ACQUIRED KNOWLEDGE</b><br>Includes disciplinary (skills based) and substantive precise outcomes for each knowledge bloke. Alongside opportunities to explore SMSC related subjects when appropriate. | Introduction to Science H+S, familiarise with scientific equipment working scientific principles. | Relate features of the particle model to the properties of materials in different states, explore diffusion, elements, mixtures and compounds. | Recognise the energy types, link to transfers and efficiency. a closed system and explore the generation of electricity. | Explore the organisation of plants and animals, link to specialised cells and explore the skeletal and muscular systems. | Practice different experimental techniques to separate a variety of mixtures into individual substances and distinguish physical and chemical changes. | Identify different forces, group by contact/non contact, make measures and explore the difference between weight and gravity. | Explain how male and female reproductive systems allow reproduction. Sequence the steps of fertilisation and pregnancy. | Use the pH scale to show how acidic or basic a substance is. Identify common Acids and alkalis and observe how neutralisation produces salts. | Compare types of waves and link to frequency and wavelength by contrasting sound and light waves. |
| <b>ASSESSMENT</b><br>Formative assessments are accompanied by a question level analysis and teacher feedback. This is graded using our EDSM criteria and reported to parents termly.                    | Baseline (GL assessment) & science practical licence                                              | particles end of topic formative assessment                                                                                                    | energy end of topic formative assessment                                                                                 | cells end of topic formative assessment                                                                                  | separating mixtures end of topic formative assessment                                                                                                  | speed and gravity end of topic formative assessment                                                                           | reproduction end of topic formative assessment                                                                          | acids and alkalis end of topic formative assessment                                                                                           | sound and waves end of topic formative assessment & Summative Exam                                |
| <b>RECIPROCAL READING</b><br>Each topic is accompanied by a set of key words and a reciprocal reading exercise.                                                                                         |                                                                                                   | <a href="#">What is plasma?</a>                                                                                                                | <a href="#">How can we get electricity from water?</a>                                                                   | <a href="#">How have microscopes developed over time?</a>                                                                | <a href="#">Why don't we get our drinking water from sea water?</a>                                                                                    | <a href="#">Could we live on mars</a>                                                                                         | <a href="#">Can male animals get pregnant?</a>                                                                          | <a href="#">What is acid rain?</a>                                                                                                            | <a href="#">What is acoustics?</a>                                                                |
| <b>HOMELEARNING</b><br>Students are expected to study up to an hour each week                                                                                                                           | Fortnightly SENECA tasks                                                                          | Fortnightly SENECA tasks                                                                                                                       | Fortnightly SENECA tasks                                                                                                 | Fortnightly SENECA tasks                                                                                                 | Fortnightly SENECA tasks                                                                                                                               | Fortnightly SENECA tasks                                                                                                      | Fortnightly SENECA tasks                                                                                                | Fortnightly SENECA tasks                                                                                                                      | Fortnightly SENECA tasks                                                                          |

\* How science works disciplinary knowledge is also integrated within the curriculum